

## WIND.

The prevailing winds for July, 1895, viz, those that were recorded most frequently at Weather Bureau stations, are shown in Table I.

The resultant winds, as deduced from the personal observations made at 8 a. m. and 8 p. m., are given in Table IX. These latter resultants are also shown graphically on Chart II, in connection with the isobars based on the same system of simultaneous observation; the small figure attached to each arrow shows the number of hours that this resultant prevailed, on the assumption that each of the morning and evening observations represents one hour's duration of a wind of average velocity; these figures (or the ratio between them and the total number of observations in this month) indicate the extent to which winds from different directions counter-balanced each other.

## HIGH WINDS.

Maximum wind velocities of 50 miles or more per hour were reported at regular stations of the Weather Bureau as follows (maximum velocities are averages for five minutes; extreme velocities are gusts of shorter duration, and are not given in this table):

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
		Miles				Miles	
Bismarck, N. Dak. ....	4	52	s.	Little Rock, Ark. ....	2	60	nw.
Chicago, Ill. ....	18	50	w.	Memphis, Tenn. ....	2	54	w.
Davenport, Iowa. ....	7	50	w.	Sandusky, Ohio. ....	19	50	nw.
Havre, Mont. ....	15	50	nw.	Winnemucca, Nev. ....	31	60	sw.
Huron, S. Dak. ....	14	56	w.				

## ATMOSPHERIC ELECTRICITY.

The statistics relative to auroras and thunderstorms are given in Table X, which shows the number of stations from which meteorological reports were received, and the number of such stations reporting thunderstorms (T) and auroras (A) in each State and on each day of the month.

The dates on which reports of thunderstorms for the whole country were most numerous were: 20th, 259; 21st, 244; and 27th, 205.

Thunderstorm reports were most numerous in Missouri,

301; Florida, 266; Illinois, 251; and Colorado, 220. Thunderstorm days were most frequent in Kentucky and Florida, 31; Colorado, Mississippi, and Missouri, 28; Alabama and North Carolina, 25.

Severe thunderstorms are especially mentioned under "Local Storms."

Auroras.—The evenings on which bright moonlight must have interfered with observations of faint auroras are assumed to be the four preceding and following the date of full moon, viz, from the 2d to the 10th, inclusive. On the remaining twenty-two days of this month 57 reports were received, or an average of about 3 per day. The dates on which the reported number especially exceeded this average were: 12th, 6; 22d, 7.

Auroras were not reported anywhere by a large percentage of observers, but the largest percentages were: North Dakota, 22 per cent; Montana, 12.

Auroras were most frequent in: Ohio, on nine days; Massachusetts, seven; North Dakota, six.

## CANADIAN THUNDERSTORMS AND AURORAS.

The dates of thunderstorms were as follows: Sydney, 11, 12; Quebec, 21, 28; Saugeen, 12; Winnipeg, 5, 13, 19, 26, 29; Minnedosa, 2, 22.

The dates of auroras were as follows: Grindstone, 19; Halifax, 16; Yarmouth, 26; Saint Andrews, 25, 26; Charlottetown, 23; Father Point, 18, 22; Quebec, 13, 22; Rockcliffe, 7, 8, 12; Toronto, 7, 12, 16, 21, 25; White River, 7; Port Stanley, 12, 15, 19–21; Parry Sound, 15, 25; Port Arthur, 7, 11; Winnipeg, 5, 25; Minnedosa, 5, 6, 26; Qu'Appelle, 4, 6, 9, 10, 25, 26, 27; Medicine Hat, 2–5, 15, 19, 30, 31; Swift Current, 1, 4, 15, 23, 25; Calgary, 8; Prince, Albert, 3, 4, 5, 26; Battleford, 3, 4, 5, 14, 26, 31.

## METEOROLOGY AND MAGNETISM.

For general remarks relative to this subject see page 7 of the REVIEW for January, 1895.

The comparison of the air temperature with magnetic horizontal force is shown in detail on Chart V, and the special features of the July curves are as follows:

There are no corrections for amplitude or slope. For reduction to a zero base line the temperature variations are corrected by +5 and the magnetic force by +1. The pressures are plotted as for April and the succeeding months.

## STATE WEATHER SERVICES.

These extracts in regard to general weather conditions are taken from the monthly reports of the State weather services. Snowfall and rain are expressed in inches.

Alabama.—The mean temperature was 79.6°, or 4.3° less than normal. The highest temperature, 102°, occurred at Goodwater on the 17th, and the lowest, 56°, at Oneonta on the 26th. The average total precipitation was 4.94; the greatest amount, 9.23, was reported at Citronelle, and the least, 1.65, at Newbern. Thunderstorms were quite frequent.

Alaska.—Not yet organized.

Arizona.—Not received.

Arkansas.—The temperature was generally below the average, except during the period from the 15th to the 20th, when it averaged 2° above. The period of greatest deficiency occurred from the 9th to the 12th, when it averaged about 8° below. The lowest temperatures occurred generally on the 9th and 10th. The average total precipitation was 7.29, or 3.26 greater than usual, and is the greatest average rainfall for thirteen years. The largest total rainfall, 16.74, was reported at Winslow, and the smallest, 1.34, at Elon. It was heaviest over the west and northwest parts of the States and lightest in the east and southeast. Thunderstorms were reported on nearly every day. On the 7th storms were reported at the greatest number of stations. Hail was reported at Keesees Ferry on the 7th and at Camden on the 20th.

California.—The mean temperature was 72.8°, about 0.3° below normal. The highest temperature, 121°, was reported at Volcano Springs on the 16th, and the lowest, 29°, at Boca on the 4th. The average total

precipitation was but 0.04 greater than the normal. Frost was reported at Bodie on the 1st, 4th, 6th, 12th, 26th, 29th, and 30th.

Colorado.—The month was characterized by many cool and rainy days, and was 3.5° cooler than the average. The deficiency of heat was general, many stations reporting the mean temperature from 1° to 3° lower than previously recorded. The average total precipitation was 1.55 above the normal. A slight deficiency occurred over Logan County and over limited areas in Washington, Summit, and Eagle counties; but in other sections decidedly more than the usual amount of rain fell, the excess being greatest over the southeastern counties, where from 2.00 to 5.00 more than the normal was recorded.

Connecticut.—(See New England.)

Delaware.—(See Maryland.)

District of Columbia.—(See Maryland.)

Florida.—The mean temperature was 81.1°, or 1.5° below the average. The highest temperature, 100°, was reported at Earnestville, on the 1st, and the lowest, 61°, at Green Cove Springs and Manatee, on the 10th. The precipitation, 7.16, was in excess of the normal by only 0.32. Decidedly the heaviest rains occurred over the northern and northwestern districts, and the least, in the southern sections.

Georgia.—The average temperature was about 2° below the normal. Although the average rainfall for the month varied but little from the normal the total amount received at stations in the same part of the State and in some cases in the same county was unusually variable. The greatest rainfall appears to have been in the extreme southwestern part of the State and over districts bordering on the coast.